

SPORTS MEDICINE – caring for those who are or want to be physically active

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In the context of an evolving medical understanding of human performance and lifestyle diseases, and advances in Sports Medicine and Science, modern man's pursuit of competition, exercise, and health has been made safer and more satisfying. Sports & Exercise Medicine (or Sports Medicine for short) facilitates an active lifestyle, whether one is already active or is sedentary but wants to become more active. For the elite athlete, Sports Medicine helps one in the pursuit of excellence, pushing the boundaries of physical performance.

Sports Medicine utilizes a multidisciplinary approach, with the help of modern technology. The Sports Medicine team includes Sports Physicians, Sports Orthopaedic Surgeons, Sports Physiotherapists, Sports Massage Therapists, Sports Trainers, Sports Podiatrists and Sports Scientists (Exercise Physiologist, Sports Dietitians, Strength & Conditioning Coach, Sports Biomechanists, and Sports Psychologists). Magnetic resonance imaging (MRI), diagnostic bedside musculoskeletal ultrasound, video gait analysis, ultrasound-guided procedures, and extra corporeal shock wave therapy (ESWT) are just some of the technologies commonly used by Sports Physicians for diagnosis, treatment, and monitoring.

Typically, those who seek the help of Sports Medicine include:

- **Individuals who exercise recreationally.** Such individuals usually seek help for nagging sports injuries, and wish to return to or maintain their active lifestyles
- **Competitive athletes,** who usually see the Sports Physician for annual pre-participation screening and injury management. The objective is to safely expedite the recovery process, so that the athlete not only recovers, but goes on to perform even better than before the injury
- **Sedentary individuals with chronic diseases** (e.g. obesity, hypertension, dyslipidaemia, diabetes, coronary artery disease, fatty liver, obstructive sleep apnoea) who wish to embark on a safe exercise programme. The Sports Physician works with the doctor looking after the primary disease to devise and implement a safe and effective exercise programme, through exercise testing and prescription. Such an exercise programme controls or reverses the medical condition, thereby improving quality of life

Injury management forms the bulk of the Sports Physician's work. Quick recovery and safe return to sport can be achieved through:

- **Accurate diagnosis** of the injury, in terms of its site and underlying pathology
- **Identification of root causes**, so that recurrences can be prevented (e.g. gait abnormalities, biomechanical factors, training errors, faulty equipment)
- **Intensive rehabilitation** is directed towards the specific injury to enhance healing and restore function to the affected parts
- **Returning the individual to his pre-injury level of activity or higher**, through correction of the underlying problem (e.g. via strength training)

Typical services of a comprehensive Sports Medicine Centre such as the Changi Sports Medicine Centre (CSMC) and the Singapore Sports Medicine Centre (SSMC) include:

- **Injury management.** This includes both non-surgical and surgical management of exercise-related injuries as Sports Physicians and Sports Orthopaedic surgeons work as a team in patient management. Ultrasonography is used for rapid diagnostics and accurately guided aspirations and injections. MRI allows diagnosis of both bony and soft tissue pathology. Ultrasound-guided ESWT for the treatment of persistent tendinopathies such as plantar fasciitis, Achilles tendinitis, patellar tendinitis, medial and lateral epicondylitis, and supraspinatus tendinitis. Sports Physiotherapists provide both electrical modalities as well as manual therapy. To prevent recurrences, underlying causes are identified (e.g. through video gait analysis) and rectified (e.g. customized orthotics fabricated by Sports Podiatrists).
- **Exercise testing and prescription.** Exercise testing (e.g. treadmill stress test) plays an important role in assessing exercise tolerance for medical conditions like coronary artery disease, hypertension, diabetes, obesity, and asthma. A safe and effective exercise regime can then be prescribed according to the patient's condition. Performance tests such as direct measurement of aerobic capacity (VO_2 max testing) and Helmas test (an eight-station semi-automated test battery to comprehensively assess various aspects of fitness) can help one fine-tune their training programme, to get maximum exercise and performance benefit, with minimum time spent.
- **Pre-participation screening.** Those who have known medical conditions can seek advice regarding exercise from their doctors. However, there are some potentially dangerous conditions (e.g. coronary artery disease, hypertrophic cardiomyopathy) that remain silent and may present catastrophically during intense exercise. Pre-participation screening is designed to identify such conditions as well as musculoskeletal problems that may limit exercise, so that they may be managed appropriately. While not all causes of sudden death can be easily screened for, undergoing pre-participation screening does help one manage risks.

- **Weight Loss programme.** Obesity and overweight underlie many medical conditions, and the key in managing such medical conditions is to reduce body fat. CSMC and SSMC run an effective and popular weight loss program that is anchored upon the 3 pillars of *dietary restriction, structured exercise, and increased daily activities*. Their dedicated team of Sports Physicians, Endocrinologist, Sports Trainers, and Dietitians, as well as its comprehensive gym facilities, makes them an ideal set up for weight reduction. Being Sports Medicine Centres, barriers to physical activity like knee and back pain are easily managed, giving patients the assurance they need as they make the transition towards a more active lifestyle.
- **Chronic disease management programme.** While we all know that exercise is important in the management of chronic diseases such as diabetes, dyslipidaemia, and hypertension, most patients will not know where to start. Our programme assesses the medical condition/s and tailors an exercise and dietary programme to control or reverse the medical condition.
- **Sports events coverage and educational course.** To complete its comprehensive range of services, CSMC and SSMC also provide medical coverage for selected events and conducts courses for the general public, fitness instructors and PE teachers.

With the growth and development of Sports Medicine in Singapore, Singaporeans can now exercise and compete with peace of mind.